

# Pharmacy NewsCapsule

Division of Supportive Living (DSL)/Bureau of Quality Assurance (BQA)

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## Alzheimer's Headlines-Beware

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Alzheimer's disease is a very destructive, frustrating disease for all involved. Currently there are no treatments that can cure Alzheimer's and there is limited information on the cause of the disease. In addition we have an aging population that in turn is creating a larger population of individuals that may develop this disease. This combination of facts can lead to a lot of public media headlines that sometimes sensationalize potential treatments, tests and preventative measures. As a result of this, individuals may attempt these possible treatments and you, as a surveyor, need to be aware of them.

Two recent headlines include the following: "Testosterone may protect against Alzheimer's disease" and "Nonsteroidal anti-inflammatory drugs may protect against Alzheimer's disease." These headlines are based upon legitimate research and may prove extremely important. However it is too early to tell if these interventions actually work.

Headlines like these can lead to problems. For example, an older adult may decide to start taking ibuprofen to prevent Alzheimer's and may end up developing an ulcer or some other adverse effect that they may not realize could occur. As a surveyor you will see these situations occur. Facilities that implement the interventions should include a good risk benefit analysis to make sure the risks and benefits are known, so a plan can be developed.

## Insulin Handling

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The prevalence of diabetes continues to grow in our society and subsequently the use of insulin is also escalating. This is leading to increased questions about handling insulin such as: Should insulin be refrigerated or stored at room temperature? How long can I keep it at room temperature? I use two types of insulin, can they be mixed in the same syringe? This article will discuss issues related to storing insulin and other insulin handling questions.

First is insulin storage. Insulin should never be frozen. If insulin has been subjected to freezing it should be thrown away. In addition to this general rule any insulin that is subjected to extreme heat should be thrown away. Examples of extreme heat can include insulin stored on the dashboard of a car in summer and insulin stored on a windowsill exposed to sun in the summer.

Insulin storage beyond these two general rules is typically variable based on the insulin manufacturer, insulin type, and insulin packaging. Currently there are two main manufacturers of insulin products, Eli Lilly and Novo Nordisk. Both manufacture a variety of products in a range of packaging. For example, each manufacturer produces an isophane human recombinant insulin in vials and various sizes of insulin pens or cartridges. Insulin pens and cartridges are used as a different way to administer insulin.

Each of these manufacturers is required to place an expiration or beyond use date on the vial, cartridge or pen. If the insulin is stored in a refrigerator intact or unopened it can be stored until the date stamped on the container. As soon as the vial, pen or cartridge has been used or opened then the expiration date changes. The general rule for opened insulin vials is that they can be stored for one month in the refrigerator. The rule for pens and cartridges differs by manufacturer and by insulin type. Information on the expiration date is included in the packaging information or from a pharmacist.

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## New Drugs

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Brand Name	Generic Name	Use
Clarinox	Desloratidine	Tablet for allergic rhinitis
Arixtra	Fondaparinux	Injection for deep vein thrombosis
Avelox	Moxifloxacin	Injectable antibiotic
Focalin	Dexmethylphenidate	Tablet for attention deficit disorder
Dutasteride	Dutasteride	Capsule for benign prostatic hyperplasia
Frova	Frovatriptan	Tablet for migraine headaches
Trevelin	Eprosartan	Tablet for hypertension
Viread	Tenofovir	Tablet for HIV

## Focus Drug of the Month

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**Bextra®**, *valdecoxib*  
(Brand name, generic name)

Bextra® is a new medication for treating signs and symptoms of osteoarthritis, rheumatoid arthritis and treatment of primary dysmenorrhea. Bextra® is similar to Celebrex® and Vioxx®.

Bextra® is administered as 10 mg once per day. It has been found to be as effective as ibuprofen and naproxen with less gastrointestinal side effects.

Bextra® should be monitored for gastrointestinal ulceration, which would show signs of black tarry stools, bruising, and coffee ground emesis. It should also be monitored for skin rash, weight gain and edema. Bextra® should be used in extreme caution in individuals with hypertension, fluid retention or heart failure.

Bextra® may be promoted heavily and utilized in elderly individuals. This medication will not be available until the spring of 2002 so cost information is not available. Due to the medication's properties any one on warfarin should avoid this medication. Facilities should be monitoring extensively anyone who has cardiovascular disease, gastrointestinal disease and/or bleeding disorders.

Bextra® is an alternative for individuals who may need pain relief but cannot take other inflammatory medications like ibuprofen. However, Bextra® should not be considered a completely safe drug, especially in the elderly.

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## Med Error Corner

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Policy and procedures for verbal orders, does that make sense to you? It should. Verbal orders for medications is a significant source of medication errors. Errors occur due to the interpretation of the verbal order. The orders may be given with different accents or dialects and in a noisy room or over a bad telephone connection. In addition verbal orders need to be written down and sometimes when they are transcribed from notepaper to the chart or prescription pad errors occur. Each step adds an element of potential error.

In today's world of the fax and computer, verbal orders are minimized but will never go away. Therefore basic policies should be in place to avoid errors. These policies should include restrictions to situations where no other mechanism of transmission can occur; all verbal orders must be repeated back to the prescriber; all high risk orders should not be given or taken verbally (For example, verbal orders for chemotherapy should never be accepted); medication orders should be transcribed initially to the medical record or final documentation (Use of a notepad with subsequent transcription should be unacceptable.)

Verbal orders are not going to go away and therefore need to be addressed as part of an overall medication safety program. These recommendations are but a few. There are many more that can be part of a good policy on verbal medication orders.

In addition to refrigerated storage, insulin can be kept at room temperature. In fact, insulin that is currently being used should be stored at room temperature to decrease the pain of the injection. Once again, insulin vials stored at room temperature in general can be stored for one month. Each manufacturer has slightly different storage time recommendations, which may change depending on the insulin type and packaging. Providers and consumers should always check with their pharmacist and with the insulin packaging information to determine how specific insulin should be stored and for how long. Another reference that can be used includes the American Diabetes Association (ADA) position statements on insulin. In addition I have produced a table for surveyors to reference that summarizes the manufacturer and ADA recommendations for insulin storage. This table will be included in the next copy of the Drug Regimen Review Guide.

In addition to storage, providers and consumers often ask if insulins can be mixed together. Mixing different types of insulin is preferred by consumers who may take more than one type of insulin to avoid having two injections if the insulin can be mixed into one injection. So can insulin be mixed? In many cases insulin can be mixed. In fact some combinations of insulin come already premixed by insulin manufacturers. Typically the rule of thumb related to mixing insulin is that first you draw up the clear insulin into the syringe and then draw up the cloudy insulin second. The second general rule is that the time between mixing and administration should remain consistent.

However not all insulin should be mixed. Some mixtures may cause the insulins to crystallize or causes one insulin to become ineffective. For example, the new insulin Lantus® should never be mixed with any other type of insulin as it will immediately precipitate or crystallize making the insulin ineffective. Providers and consumers should check with their pharmacist to determine if its appropriate to mix various insulin.

Insulin administration will be changing over the coming years. For example there are insulin inhalers that are currently being tested. As each new insulin or form of insulin becomes available, providers and consumers need to understand the proper handling of the drug. The only way drugs can work is if patients take them and take them correctly. If these two simple rules are not followed there is no way a drug can be successful.

For those of you who receive a copy of this newsletter by email, you will also be receiving a short survey attachment with the newsletter. Please save the attachment, type in your responses and email back to [engleda@dhfs.state.wi.us](mailto:engleda@dhfs.state.wi.us). You could also print the survey, fill it out and fax to 608-267-7119. I appreciate the time you take to fill out this survey.

## **Kineret®**, *anakinra*

Kineret® is an injectable medication for the treatment of rheumatoid arthritis. Specifically this medication is for individuals who have moderate to severe rheumatoid arthritis who have failed to respond to one or more disease modifying antirheumatic drugs (DMARDs).

Kineret® is administered by subcutaneous injection (like insulin) once per day into the stomach, thigh or arm. The most common side effects of the medication include injection site reactions and the potential for serious infections or malignancies. Infections have the potential to occur because Kineret® inhibits interleukin-1 binding, which is part of the immune system.

The problem with Kineret® for most individuals with rheumatoid arthritis, is the cost and the fact that it is injected. Currently the cost of the medication will be \$1000 per month. In addition individuals with rheumatoid arthritis very often have troubles with their hands and subsequently have trouble with syringes and injecting medications. Individuals who have trouble can obtain a free injection gun that can make the injection process much simpler. The gun can be obtained from the physician, pharmacist or by calling 1-866-kineret.

To reiterate, all individuals who develop severe or persistent infections while taking this medication should immediately notify their physician.

*If there are medications you would like featured here please send an email to Doug at [engleda@dhfs.state.wi.us](mailto:engleda@dhfs.state.wi.us)*

## Consultant's Corner

Doug Englebert

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This section is basically a miscellaneous section that will show up each issue and will contain tidbits of information, most of which will come directly from your questions. If there is a topic you want more detailed information about, please drop me an email at [engleda@dhfs.state.wi.us](mailto:engleda@dhfs.state.wi.us) and I'll see what I can find.

### 1) Can unlicensed Community Based Residential Facility (CBRF) staff pour out liquid medications for administration?

CBRF staff can administer medications if they have taken the required medication training. Some CBRFs do not use a nurse or pharmacist to supervise CBRF staff. In these facilities, all medications (except over the counter medications), including liquid medications, must be unit dosed. In these situations trained CBRF staff may pour out the liquid from the unit dose packaging in order to administer the medication.

In other facilities that have a registered nurse or pharmacist that supervise CBRF staff, there may be cases where the liquid medication comes in a larger bottle and the dose needs to be poured and measured from that bottle. CBRF staff can pour and measure from the bottle if they have been trained to do so. The registered nurse and/or pharmacist should occasionally observe this process to assure proper technique.

### 2) In nursing homes where medication error rates are calculated as part of the survey process, would administration of an expired medication be considered an error?

Administration of an expired medication is considered an error. The main reason it is considered an error is because the medication may not be delivering what is required by the physician order. That is, the dose on the label and per the physician order states 650 mg but because the medication is past the expiration date it may no longer be delivering 650 mg as ordered.

### 3) How do you define a medication error in a hospital?

The federal regulations require hospitals to immediately report medication administration errors to the attending physician. The state regulations require that there must be a process to record and communicate medication errors. Medication administration errors are only one type of error. This is the only type of error that must be reported per federal regulations to the attending physician. Hospitals have the flexibility to define medication errors as they wish. Hospitals may use standard language from many national organizations or make up their own definition of medication errors. The point is they should have an effective process to identify medication errors in order to prevent future errors.

### 4) What is serotonin syndrome?

Last issue serotonin syndrome came up in the SAM-e overview and there have been questions asking for more details. First to understand the syndrome you have to understand what serotonin does. Serotonin is a neurotransmitter that acts as a messenger between neurons. Basically our nervous system is kind of like a spider web that is not physically connected. Various neurotransmitters, like serotonin, become those connectors to make sure the web works. Some individuals who have deficiencies in neurotransmitter may have conditions like depression. In order to treat a condition like depression an individual may take a medication to increase the productions of neurotransmitter messengers or at least help those messengers that are there work better.

When serotonin syndrome occurs something has happened that made the serotonin work too hard and now there is overstimulation occurring. This is similar to the situation where you may need some caffeine to get you moving in the morning and you normally drink a standard blend of coffee. One day you decide to try a double espresso and the caffeine in this beverage is significantly greater than normal causing you to have jitters, headaches or other side effects. The same thing happens with neurotransmitter. In the case of serotonin overstimulation is called serotonin syndrome. Characteristics of serotonin syndrome include: nausea, vomiting, confusion, agitation, tachycardia (racing heart), diaphoresis (sweating), and myoclonus (muscle spasms).

References are available upon request.